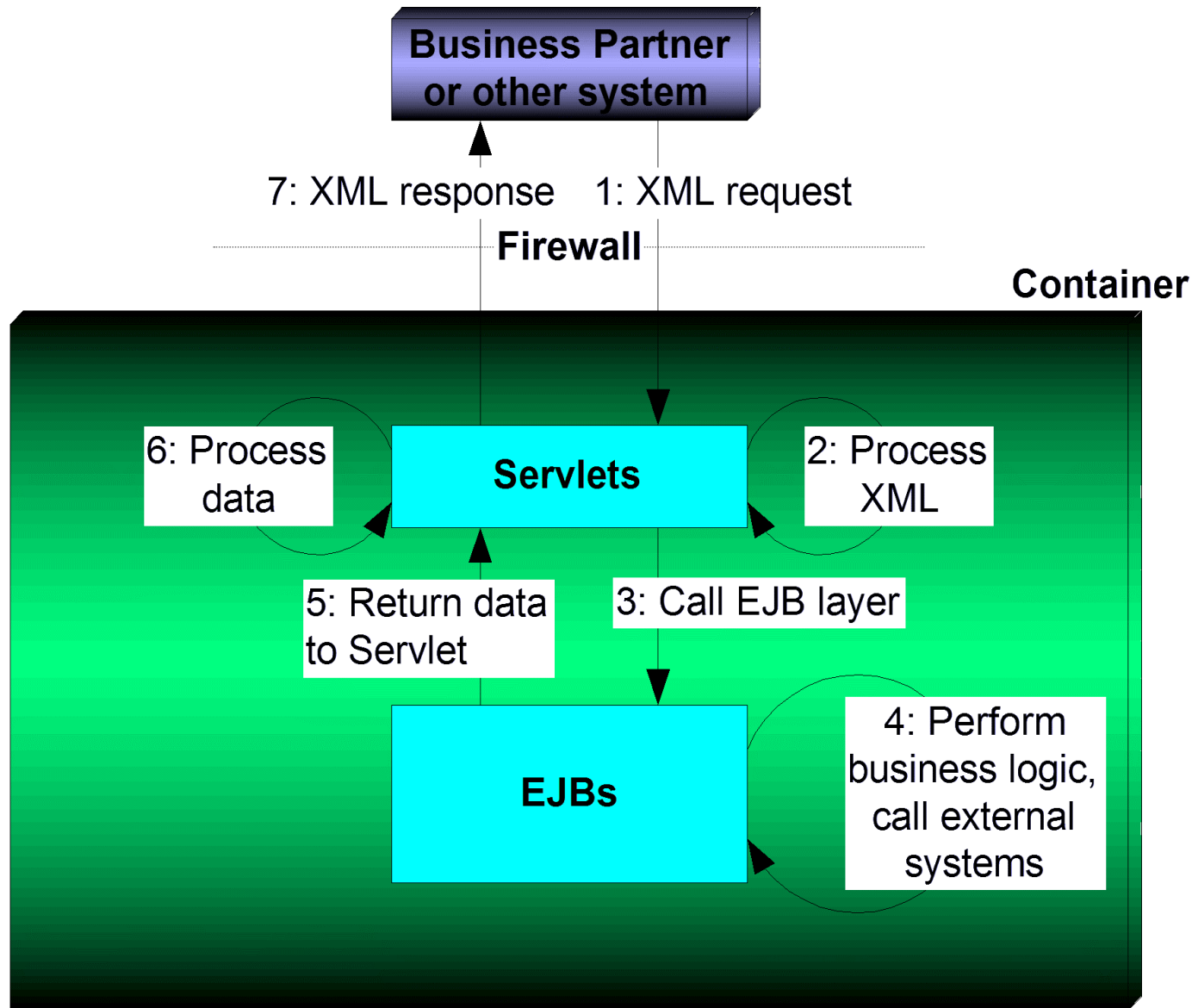


▶ J2EE Web Services



- ◆ J2EE web services **build on** existing J2EE technologies
- ◆ Servlets, JSPs can be called as web services
 - This is because they already can be called via HTTP
 - Now you're just happening to send XML instead of HTML

▶ J2EE Web Services – iteration #1





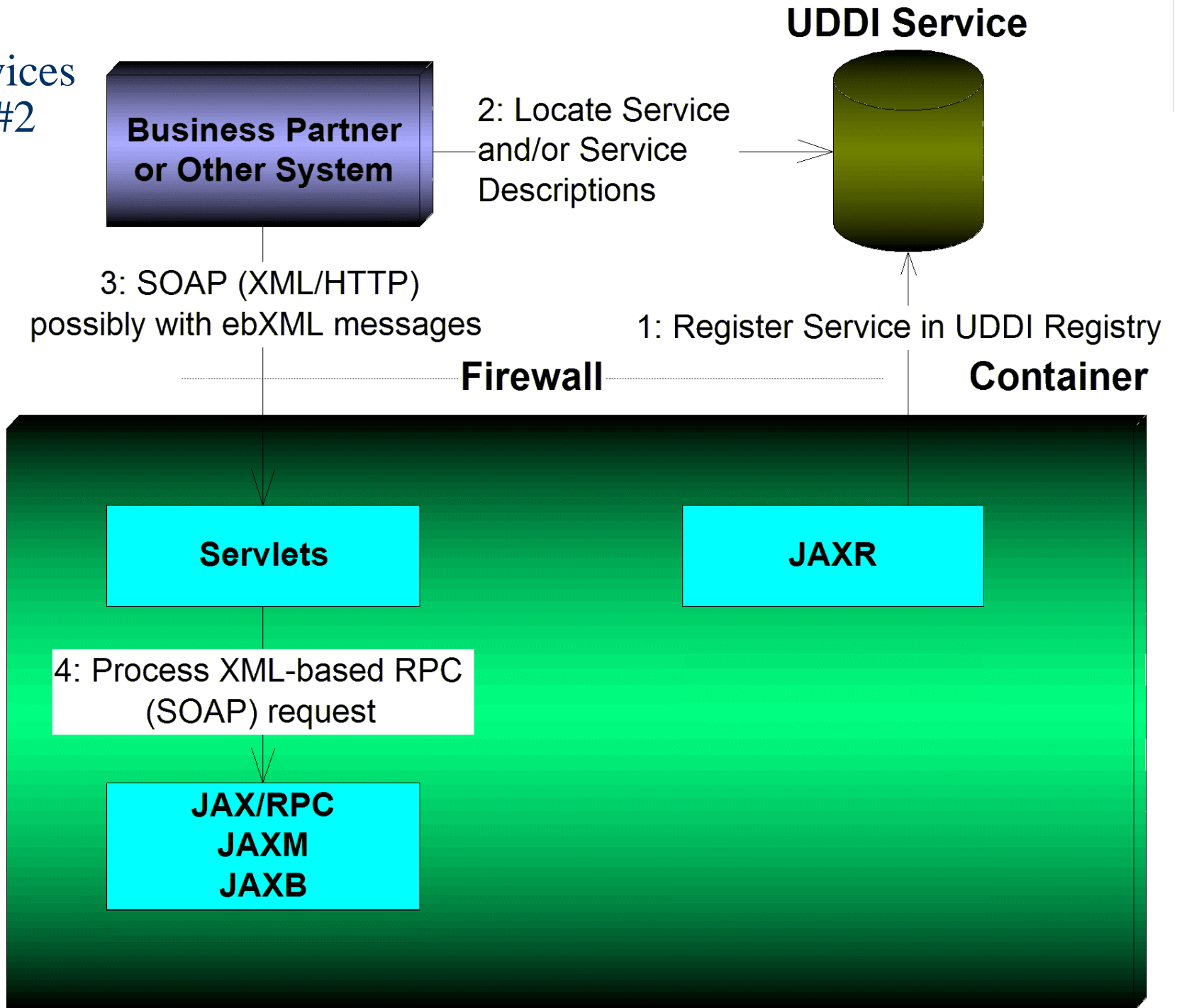
- ◆ This was somewhat cumbersome
 - You needed to write your own logic to perform web services operations
- ◆ Now it's better
 - You have some helper APIs to help you do SOAP, UDDI, WSDL, ebXML
 - After all, you don't want to write code that goes down to the low-level of XML/HTTP
 - Those helper APIs are JAXR, JAXB, JAXM, JAX/RPC, and jWSDL

▶ J2EE Web Services



- ◆ Each J2EE Web Services API helps you perform a web services operation
 - JAXR: UDDI
 - JAXM: ebXML
 - JAX/RPC: SOAP
 - jWSDL: WSDL
 - JAXB: Transforming Java objects to and from XML

J2EE
Web Services
Iteration #2



▶ J2EE Web Services



- ◆ So the great thing with J2EE is:
 - You write a reusable enterprise app with EJB
 - You can then expose that app as a
 - Web site (Servlets/JSP)
 - Traditional GUI application (Application or Applet)
 - Web service (Servlets, JAX APIs, EJB 2.1)